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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/777,468

02/12/2004

Joseph S. Stam

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12/10/2007

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EXAMINER

ALLISON, ANDRAE S

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

12/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/777,468

Applicant(s)

STAM ET AL.

Examiner

Andrae S. Allison

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on October 10, 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 17-18 and 23- 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 17-18 and 23- 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Remarks.

1. The Office Action has been issued in response to amendment filed October 10, 2007. Claims 1-6, 17-18 and 23-24 are pending. Applicant's arguments have been carefully and respectfully considered in light of the instant amendment, and are not persuasive. Accordingly, this action has been made FINAL.

102 Claim Rejection

In response to applicant's argument on page 6, [p][002] that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., wherein an exterior light control output of said controller is in a first state when reflections off of a highly reflective surface are detected and said exterior light control output is in a second state when reflections off of atmospheric conditions of interest are detected) are not recited in the previously rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the Kobayashi clearly teaches wherein an exterior light control output of said controller is in a first state when reflections off of a highly reflective surface are detected and said exterior light control output is in a second state when reflections off of atmospheric conditions of interest are detected in columns 4, lines 1-6.

In response to applicant's argument on pages 7-8 that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., an automatic vehicle exterior light control system, comprising: a controller configured to identify the source of a reflection in an image by employing at least one of the parameters selected from the group comprising: mean grayscale value of at least a portion of at least one image, total grayscale value of at least a portion of at least one image, average grayscale value of at least a portion of at least one image, slope of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, slope of pixel row location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, intercept of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, slope of pixel row location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, a coefficient of determination, parabolic fit of at least a portion of column pixel value averages in at least one image, multiple images of differing exposure times, inputs from vehicle pitch sensors, a low-pass filter applied to at least a portion of an image, gradual vertical cutoff in at least a portion of pixel rows within at least one image, row average grayscale value net increase moving downward in at least one image, white-to-red ratio of at least one pixel in at least one white image and at least one pixel in at least one red spectral filtered image, sum of average grayscale values for at least one row in at least one image, increase brightness of controlled vehicle's exterior light and detect increase in reflection, at least one probability function, and at least one neural network, wherein a

Art Unit: 2624

state of an exterior light control output of said controller is at least partially dependent upon the source of said reflection in said image.) are not recited in the previously rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Kobayashi clearly teaches the limitation in column 4, lines 1-6, wherein a state of an exterior light control output of said controller is at least partially dependent upon the source of said reflection in said image. The other limitations in claim 17 was discussed in the previous office action. As to Applicant's argument on page 9 [p][001], see the discussion above

Applicant argued on page 9, [p][002] that neither Kobayashi or Sekine teach "wherein a state of an exterior light control output of said controller is at least partially dependent upon detection of either a pedestrian or a bicyclist", the Examiner disagrees, since Kobayashi was not relied upon for the rejection of claims 23-24 (see previous office action). Claims 23-24 were rejected using Jose (US Patent No.: 5,798,911) in view of Sekine et al (US Patent No.: 5,963,148). Furthermore, the limitation wherein a state of an exterior light control output of said controller is at least partially dependent upon detection of either a pedestrian or a bicyclist is taught by Josie in column 11, lines 31-49.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi (US Patent No.: 6,254,259).

As to independent claim 1, Kobayashi discloses an automatic vehicle exterior light control system (vehicle lamp system, see Fig 1), comprising: a controller (3, illumination control means, see Fig 1) configured to generate an exterior light control signal as a function of the presents of an atmospheric condition of interest (2, environment detection means, see Fig 1), wherein said controller is further configured to distinguish between reflections off of a highly reflective surface and reflections off of atmospheric conditions of interest (note that the environment detections means can determine the weather and road surface conditions using images; see column 2, lines 55-61), wherein an exterior light control output of said controller is in a first state when reflections off of a highly reflective surface are detected and said exterior light control output is in a second state when reflections off of atmospheric conditions of interest are detected (see column 4, lines 1-6, where the distribution of the luminous intensity changes based the atmospheric condition).

As to claim 2, Kobayashi teaches an automatic vehicle exterior light control system wherein said highly reflective surface is selected from the group comprising: an at least partially wet road, an at least partially snow covered road, an at least partially ice covered road, a surface of a snow pile along a road, and a surface of an at least

Art Unit: 2624

partially snow covered road side (e.g. snowy, see column 3, lines 10-16, note that the reflective surfaces are examples of road surface conditions).

As to claim 3, Kobayashi teaches an automatic vehicle exterior light control system wherein said atmospheric condition of interest is selected from the group comprising: fog, mist, snow, sleet, hail, rain, steam, smoke and dust (e.g. fog, see column 3, lines 1-5, note that the atmospheric condition are examples of weather conditions).

As to claim 4, note the discussion of claim 2 above.

As to claim 6, Kobayashi teaches an automatic vehicle exterior light control system wherein said controller is further configured to manipulate an exterior light maximum brightness limit (see column 3, lines 56-60).

As to claim 18, note the discussion of claim 6 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US Patent No.: 6,254,259) in view Simpson et al (NPL document titled: "A Recurrent Neural Network Classifier for Improved Retrievals of Areal Extent of Snow Cover ").

As to claim 5, Kobayashi teaches an automatic vehicle exterior light control system wherein said reflections are identified by employing slope of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image (see column 3, lines 50-52, where one of the parameter for the control means is the distribution of luminous intensity), increase brightness of controlled vehicle's exterior light (intensity of light, see column 3, lines 50-52). However Kobayashi does not expressly disclose at least one probability function, and at least one neural network. Simpson discloses a recurrent neural network classifier (see title), which includes at least one probability function (see page 2136, [p][005], lines 1-11 where a probability function is used in the selection of texture models), and at least one neural network (NN, see Fig 1). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the teachings of Kobayashi and Simpson to accurately determine the atmospheric or weather conditions by using a neural network to classify image data collected from the exterior of the vehicle because Kobayashi does not make this determination and neural networks are a well know way to make this type of determination.

As to claim 17, all the limitations are discussed above except: "wherein a state of an exterior light control output of said, controller is at least partially dependent upon the source of said reflection in said image". Simpson teaches wherein a state of an exterior light control output of said, controller is at least partially dependent upon the source of said reflection in said image (see column 4, where the intensity of the light is dependent upon the detection of precipitation of now and density of fog).

6. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jose (US Patent No.: 5,798,911) in view of Sekine et al (US Patent No.: 5,963,148).

As to independent claim 23, Jose disclose an automatic vehicle exterior light control system (automatic light system, see Fig 1), comprising: a controller (60, control means, see Fig 1) configured to detect at least one of a pedestrian and a bicyclist and further configured to provide a corresponding indication to an operator of a controlled vehicle, wherein a state of an exterior light control output of said controller is at least partially dependent upon detection of either a pedestrian or a bicyclist. (see column 11, lines 31-49, where an emergency condition such a pedestrian or wild animal is detected and the beam range is automatically reduced). However, Jose did not expressly disclose providing a corresponding indication to an operator of a controlled vehicle. Sekine disclose a road situation perceiving system, in which an indication is provided to an operator of a controlled vehicle if there is an obstacle present in the road (see Fig 2, Step 5). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the teaching of Jose and Sekine to perceive a road

situation ahead of a subject vehicle so that an appropriate countermeasure may be performed, if necessary, without relying on a driver's visual judgment (column 1, lines 37-42), while alerting the driver of an hazardous situation in the form of an alarm (column 2, lines 14-16) and also providing the driver with a view of the hazardous situation on a display (column 2, lines 54-59).

As to claim 24, neither Josie or Sekine disclose an automatic vehicle exterior light control system further configured to disable automatic operation of at least one high beam headlight in response to an operator activated input device. However, it would have been obvious to disable automatic operation of at least one high beam headlight in response to an operator activated input device to turn off the high beam in cases where the automatic vehicle exterior light control system fails to turn off the high beam so that an on coming car, a cyclist or pedestrian is not dazzle by the high beams (OFFICIAL).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrae S. Allison whose telephone number is (571) 270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Meta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

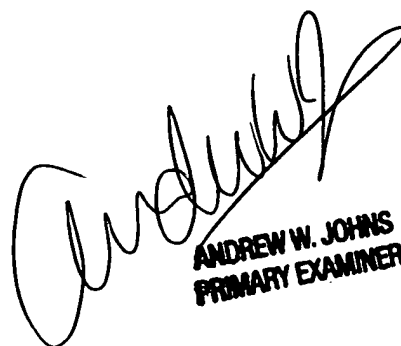
Application/Control Number: 10/777,468
Art Unit: 2624

Page 11

Andrae Allison

December 5, 2007

A.A.



ANDREW W. JOHNS
PRIMARY EXAMINER